NATURAL PRODUCT UPGRADE

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Section/Groups: Data Administration
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Effective April 13, 1997, ITS will install the following products into the Development, Acceptance Test, and Training regions:

    NATURAL 2.2.8
    NATURAL for VSAM 2.3.2
    NATURAL Optimizer Compiler 2.1.6
    NATURAL Advanced Facilities 2.2.8
    NATURAL Security 2.2.8

Attached are extracts from the product release notes for NATURAL and NATURAL for VSAM. They document designed changes in product functionality. **Please test these products thoroughly**. Contact ITS Customer Service at 538-3440 if you experience problems because of these upgrades.

If these products perform satisfactorily, they will be migrated to the remaining regions in June. A schedule of implementation dates for the remaining regions will be published after these products have been tested.

If you have any questions regarding this upgrade, contact ITS Database Administration at 538-3235.

NATURAL Changes

Statements

PROCESS COMMAND

The PRIVATE clause of the PROCESS COMMAND statement is no longer supported.

For the time being, the use of the PRIVATE clause will not lead to an error; the clause will merely be ignored. This will be changed with one of the next releases, when the specification of the PRIVATE clause will lead to a syntax error.

SET CONTROL

An invalid terminal command specified in a SET CONTROL statement used to be ignored. Now an error message is issued in the case of an invalid specification in a SET CONTROL statement.

WRITE TITLE/TRAILER and SKIP

SKIP after WRITE TITLE or WRITE TRAILER was always interpreted as the SKIP clause of the WRITE TITLE/TRAILER statement, and not as an independent SKIP statement. However, for this SKIP clause, the syntax of the SKIP statement - including a possible report specification - was erroneously allowed.

To avoid possible confusions between independent SKIP statements and SKIP clauses of WRITE TITLE/TRAILER statements - and to be compatible with NATURAL on other platforms - this error has been corrected. Now, SKIP with report specification after WRITE TITLE/TRAILER leads to an error (because a report specification is not allowed within the SKIP clause of a WRITE TITLE/TRAILER statement).

If you wish an independent SKIP statement after a WRITE TITLE/TRAILER statement, use a semicolon (;) to separate the two statements from one another.

Example:

WRITE (3) TITLE 'title text' SKIP (3) 12 LINES

Previously, NATURAL accepted the above syntax and treated the SKIP as part of the WRITE TITLE statement. Now, NATURAL issues an error, because a report number must not be specified within the SKIP clause of a WRITE TITLE statement.

To avoid this error, either remove the report specification from the SKIP clause:

WRITE (3) TITLE 'title text' SKIP 12 LINES

Or use a semicolon to turn the line into two separate statements:

WRITE (3) TITLE 'title text' ; SKIP (3) 12 LINES

System Commands

HELP LAST Changed to HELP ERROR

The HELP command option "HELP LAST" - which displays the long text for the last error that occurred - has been renamed to "HELP ERROR".

To be consistent with the command option "HELP command", "HELP LAST" now displays help information for the system command LAST.

Editors

Default of Exit Window Changed

The Exit window, which is invoked when you leave the program editor, data area editor or editor profile, has been changed. By default, the option "Save and Exit" was selected; now the option "Resume Function" is selected when the window is invoked.

NATURAL Remote Procedure Call

Stub Generation with Compression

Client stub routines can now be generated with COMPRESSION=ON or OFF. Stubs generated with COMPRESSION=ON reduce the data transfer rate. However, they can only be used with mainframe servers running NATURAL Version 2.2.8 or above, and any other servers running NATURAL Version 2.2.1 or above.

Stubs of NATURAL versions prior to 2.2.8 must be newly generated under Version 2.2.8.

NATURAL/CICS Interface

Conventions for Calling Non-NATURAL Programs Enhanced

The conventions for calling non-NATURAL programs with parameter values in a CICS COMMAREA (SET CONTROL 'P=C') have been enhanced:

When SET CONTROL 'P=C' is used, no parameters are passed in the TWA, but only parameter values in the CICS COMMAREA. All parameters of the CALL parameter list are copied adjacent to one another, regardless of their alignment. The resulting COMMAREA length is the sum of the individual parameter lengths (this has to be taken into consideration when determining the number of array occurrences to be passed). On return from the called program,

the parameters are copied back.

Please be careful when passing overlapping fields or a field more than once. Such fields should be made "read only" for the called program; otherwise, unpredictable results may occur when parameter values are returned to the calling program.

Incompatibility

The following restriction applies and may cause incompatibilities with previous SM levels of NATURAL 2.2:

Group arrays cannot be passed:

```
01 #GROUP (2)
  02 #FIELD1 (A1)
  02 #FIELD2 (P7)
```

They should either be passed as individual arrays:

```
01 #GROUP
  02 #FIELD1 (A1/2)
  02 #FIELD2 (P7/2)
```

Or they should be redefined as:

```
01 #GROUP
01 REDEFINE #GROUP
  02 #ARRAY (A1/10)
```

And the array name be specified in the CALL statement.

DPL Support for Called CICS Programs

The called CICS program may reside in another CICS region. Calling such a program only works with SET CONTROL 'P=C'; that is, the parameter values have to be passed instead of the addresses (because addresses within the "calling" region cannot be accessed by the "called" region).

NATURAL for VSAM Changes

Open/Close Handling

The NATURAL for VSAM open/close handling has been completely redesigned.

Now, OP calls can be issued statically, dynamically, and within a NATURAL session. Static OP calls are defined via the NTOPRB macro and dynamic OPRB specifications are done when starting NATURAL. Within a session, multiple OP calls are also supported.

A default handling for OPEN requests can be specified per DBID.

Multiple OP calls issued within a session are performed vis the user exit USR1045N in NATURAL library SYSEXT, which provides the same functionality as static OP calls.